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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,876	09/25/2003	Atsuhisa Nakashima	117317	5151
25944	7590	04/19/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			STEPHENS, JUANITA DIONNE	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/669,876

Applicant(s)

NAKASHIMA ET AL.

Examiner

Juanita D. Stephens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Application filed 9/25/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-17 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/25/03 & 1/22/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 7-14 and 16-17 are objected to because of the following informalities:

In claim 7, line 2 insert a space between "claim3".

In claim 8, line 2 insert a space between "claim3".

In claim 9, line 2 insert a space between "claim3".

In claim 10, line 2 replace "claim 9" with --claim 8--. It appears that the dependency of claim 10 should be on claim 8, because the recitation of "the recessed portion" was first recited in claim 8.

In claim 16, line 1 replace "The belt conveying mechanism" with --A belt conveying mechanism".

In claim 16, line 12 the word "moves" is misspelled.

Appropriate correction is required.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claims 1, 16 and 17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 9 of copending Application No. 10/667,497. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claim 1 of Application No. 10/667,497 discloses the limitations of claim 1 of present Application No. 10/669,876 as recited as follows: **1)** a belt conveying mechanism for an ink-jet recording apparatus comprising: (claim 1, lines 1-2), **2)** a plurality of rollers (claim 1, line 3), **3)** a conveyor belt that conveys a record medium thereon, the conveyor belt spanned the plurality of rollers (claim 1, lines 4-6), **4)** an ink hold portion that holds ink, the ink holding portion arranged on a surface of the conveyor belt (claim 1, lines 9-13), and **5)** an ink removing member that removes the ink held in the ink holding portion (claim 1, lines 14-18).

Claim 9 of Application No. 10/667,497 discloses the limitations of claim 16 of present Application No. 10/669,876 as recited as follows: **1)** a belt conveying mechanism for an ink-jet recording apparatus comprising: (claim 9, lines 1-2), **2)** a plurality of rollers (claim 9, line 3), **3)** a conveyor belt that conveys a record medium thereon, the conveyor belt spanned the plurality of rollers (claim 9, lines 4-6), **4)** an ink hold portion that holds ink, the ink holding portion arranged on a surface of the conveyor belt (claim 9, lines 9-13), **5)** an ink removing member that removes the ink held in the ink holding portion (claim 9, lines 14-18), **6)** a sensor that detects a position of the ink holding portion (claim 9, lines 19-20), and **7)** a drive mechanism that moves the ink removing member into contact or out of contact with the ink holding portion, on the basis

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of a position of the ink holding portion and a running speed of the conveyor belt detected by the sensor (claim 9, lines 21-30).

Claim 10 of Application No. 10/667,497 discloses the limitation of claim 17 of present Application No. 10/669,876 as recited as follows: the belt conveying mechanism, and an ink-jet head that ejects ink onto the record medium being conveyed by the conveyor belt of the belt conveyor (claim 10, lines 2-5).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lehmann et al. (US 4,935,755).

Lehmann et al. discloses A belt conveying mechanism for an ink-jet recording apparatus (Fig. 1) comprising: **1)** a plurality of rollers (15) (col 3, ln 51), **2)** a conveyor belt (endless band 14) (col 3, ln 47) that conveys a record medium, which inherently discloses, the conveyor belt spanned the plurality of rollers, **3)** an ink hold portion (squirting region 20) that holds ink, the ink holding portion arranged on a surface of the conveyor belt (col 4, lns 11-15), **4)** an ink removing member (scraper 21 as seen in Fig. 4 and roller 22 as seen in Fig. 5) that removes the ink held in the ink holding portion (col

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4, Ins 15-20 and Ins 28-33), **5**) wherein the ink removing member (scraper 21, as seen in Fig. 4) is made of metallic material (col 4, Ins 17-20), and **6**) wherein the ink removing member (roller 22, as seen in Fig. 5) is a cylindrical roller(col 4, Ins 28-33)

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann et al. (US 4,935,753) in view of Kitahara et al. (6,672,705 B2).

Lehmann et al. teaches the claimed invention, with the exception of 1) a recessed portion formed on the surface of the conveyor belt and wherein the ink holding portion is arranged within the recessed portion to hold ink within the recessed portion, 2) wherein the ink holding portion includes a plurality of protrusions formed on the surface of the conveyor belt, 3) wherein the plurality of protrusions protrude perpendicularly to the surface of the conveyor belt, 4) wherein the plurality of protrusions extend in parallel with each other perpendicularly to a running direction of the conveyor belt, and 5) the plurality of protrusions are formed in a recessed portion formed on the surface of the conveyor belt, and positioned below a conveying surface of the conveyor belt on which the record medium is conveyed. Kitahara et al. at least teaches an ink holding portion (groove-like ink reservoirs 204a) that holds ink, the ink holding portion arranged on a surface of the conveyor belt (204) (col 28, Ins 1-2 as seen in Fig. 40)), an ink removing

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member (209) that removes the ink held in the ink holding portion (col 28, Ins 29-31), a recessed portion formed on the surface of the conveyor belt (formed by distance of groove-like ink reservoirs 204a) and wherein the ink holding portion is arranged within the recessed portion to hold ink within the recessed portion (col 28, Ins 2-6 and Ins 55-59 as seen in Fig. 40), wherein the ink holding portion includes a plurality of protrusions (formed by wall which separate the groove-like ink reservoirs 204a) formed on the surface of the conveyor belt (204)(as seen in Fig. 40), wherein the plurality of protrusions protrude perpendicularly to the surface of the conveyor belt (as seen in Fig. 40), wherein the plurality of protrusions extend in parallel with each other perpendicularly to a running direction of the conveyor belt (as seen in Fig. 40 with respect the belt conveying direction Do), and the plurality of protrusions are formed in a recessed portion formed on the surface of the conveyor belt, and positioned below a conveying surface of the conveyor belt on which the record medium is conveyed (as seen in Fig. 40). It would have been obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Lehmann et al. by substituting the belt as taught to by old by Kitahara et al. for the purpose of providing viable, durable and extended life belt that is reusable.

8. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann et al. (US 4,935,753) in view of Kitahara et al. (6,672,705 B2) as applied to claims 2-5 and 8 above, and further in view of Yoshikawa et al. (US 5,708,467).

Lehmann et al. in view of Kitahara et al. discloses the claimed invention, with the exception of wherein the ink removing member is made of felt. Yoshikawa et al. at least

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teaches wherein the ink removing member (80) is made of felt (col 22, lns 43-48). It would have been further obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Lehmann et al. in view of Kitahara et al. by providing the ink removing member as taught to be old by Yoshikawa et al. for the purpose of cleaning the inner surface of the intermediate medium 5.

9. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann et al. (US 4,935,753) in view of Kitahara et al. (6,672,705 B2) as applied to claims 2-5 and 8 above, and further in view of Sugiyama et al. (US 5,517,222).

Lehmann et al. in view of Kitahara et al. discloses the claimed invention, with the exception of 1) wherein the ink removing member has the same length as the recessed portion. Sugiyama et al. at least teaches wherein the ink removing member (absorbing member 15) has the same length as the recessed portion (col 6, lns 14-17, as seen in Fig. 3). It would have been further obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Lehmann et al. in view of Kitahara et al. by providing the ink removing member as taught to be old by Sugiyama et al. for the purpose of providing an ink jet recording apparatus which is capable of performing empty discharging so as not to cause troublesome discharging due to increase in viscosity of ink even with a recording head having minimum discharging nozzle dimension with out dropping the recording speed.

10. Claims 11, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmann et al (US 4,935, 753) in view of Sugiyama et al. (US 5,517,222).



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Lehmann et al. discloses the claimed invention, with the exception of **1)** wherein the ink holding portion includes an absorber, **2)** wherein, when the ink holding portion is in a position corresponding to either of the plurality of rollers, the ink removing member is brought into contact with the ink holding portion to remove ink, and **3)** wherein the ink removing member can selectively take a position for being in contact with the ink holding portion and a position for being out of contact with the ink holding portion.

Sugiyama et al. at least teaches wherein the ink holding portion (receptors 11 and 21) includes an absorber (col 4, lns 39-42; col 5, lns 18-31; col 6, lns 9-11 and lns 46-54), wherein, when the ink holding portion (receptors 11 and 21) is in a position corresponding to either of the plurality of rollers, the ink removing member (absorbing member 15) is brought into contact with the ink holding portion to remove ink (col 6, lns 55-62), and wherein the ink removing member can selectively take a position for being in contact with the ink holding portion and a position for being out of contact with the ink holding portion (col 6, lns 55-62, as seen in Figs. 4 and 5). It would have been further obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Lehmann et al. by providing the ink holding portion, and positioning mechanism as taught to be old by Sugiyama et al. for the purpose of providing an ink jet recording apparatus which is capable of performing empty discharging so as not to cause troublesome discharging due to increase in viscosity of ink even with a recording head having minimum discharging nozzle dimension without dropping the recording speed.

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11. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teumer et al (US 5,717,446) in view of Kitahara et al. (6,672,705 B2) and Sugiyama et al. (US 5,517,222).

Teumer et al. discloses a belt conveying mechanism for an ink-jet recording apparatus (Fig. 1) comprising: 1) a plurality of rollers (14) (col 3, lns 47-48, 2) a conveyor belt (12) that conveys a recording medium (17) thereon, the conveyor belt spanned the plurality of rollers (col 4, lns 9-10), 3) an ink-jet heat (printing member 16) that ejects ink onto the record medium being conveyed by the conveyor belt of the belt conveyor (col 3, lns 57-62) and 4) a sensor (48) that detects a position of the ink holding portion (col 5, lns 31-42). Teumer further at least teaches a belt 12 having a plurality of apertures 44 providing openings through which a programmed ink-jet purging pattern can be fired by the ink-jet printhead to thereby maintain the individual nozzles of each of the printheads

Teumer et al. discloses the claimed invention, with the exception of 1) an ink holding portion that holds ink, the ink holding portion arranged on a surface of the conveyor belt, 2) an ink removing member that removes the ink held in the ink holding portion, and 3) a drive mechanism that moves the ink removing member into contact or out of contact with the ink holding portion. Kitahara et al. at least teaches an ink holding portion (groove-like ink reservoirs 204a) that holds ink, the ink holding portion arranged on a surface of the conveyor belt (204) (col 28, lns 1-2 as seen in Fig. 4), and an ink removing member (209) that removes the ink held in the ink holding portion (col 28, lns 55-59). It would have been obvious at the time the invention was made to a person

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having ordinary skill in the ink jet art to modify Teumer et al. by substituting the belt as taught to by old by Kitahara et al. for the purpose of providing viable, durable and extended life belt that is reusable. Sugiyama et al. at least teaches a drive mechanism that moves the ink removing member (15) into contact or out of contact with the ink holding portion (col 6, lns 55-58). It would have been obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Teumer et al. by providing the positioning mechanism as taught to be old by Sugiyama et al. for the purpose of providing an ink jet recording apparatus which is capable of performing empty discharging so as not to cause troublesome discharging due to increase in viscosity of ink even with a recording head having minimum discharging nozzle dimension with out dropping the recording speed.

***Allowable Subject Matter***

12. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose, suggest, or render obvious the limitation of wherein each of the plurality of protrusions has a overhanging portion thereof inclining to a downstream of a running direction of the conveyor belt. This invention solves the problem of performing speedy flushing with a relatively simple structure and reducing a deterioration in strength of a conveyor belt,

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The prior art does not disclose, suggest, or render obvious the limitation of wherein an angle between the surface of the conveyor belt and a face of each protrusion on an upstream side of a running direction of the conveyor belt is larger than an angle between the surface of the conveyor belt and a face of the protrusion on a downstream side of the running direction of the conveyor belt. This invention solves the problem of disabling flushed ink from going over the protrusion.

#### **Contact Information**

14 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juanita D. Stephens whose telephone number is (571) 272-2153. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 4/15/2005  
Juanita D. Stephens  
Primary Examiner  
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